

Case Study

Gaylord Rockies Resort: Resilient power for guests and events

Aurora, CO



With over 1,500 guest rooms and 485,000 square feet of convention space, the Gaylord Rockies Resort needed a resiliency solution to keep the lights on, especially in the event of an electric grid outage.

Gaylord Rockies Resort & Convention Center, owned by Ryman Hospitality Properties and managed by Marriott International, reached out to Unison Energy given its successful project at the Gaylord National Harbor Resort & Convention Center in Maryland. As a satisfied client, Gaylord Hotels asked Unison to provide a resilient and cost-saving energy solution for their Denver, CO location.

With 485,000 square feet of convention space, Gaylord Rockies is the largest combined hotel and convention center in the state, with 69 event rooms and 1,501 guest rooms, plus an expansion plan for 300 additional rooms.

Given the hotel's size and large-scale events, a power outage could have a major financial impact. The hotel has only one utility feed, with backup generators in place for critical life safety loads only. If utility power was lost, meeting spaces and hotel rooms would go dark, disrupting the experience for guests and conference attendees.

To mitigate this risk, the hotel's primary goal was to improve power resiliency and lower operating expenses if possible.

Gaylord Rockies utility feed was connected to a 1200 A, 13.8 kV, 3 phase, 4 wire main switchboard, and included one boiler for domestic hot water. The facility's annual

CHP-based microgrid covering 94% of the hotel & convention center's facility load

Operating at 73% efficiency

480 V operating voltage, with one 13.8 kV step-up transformer

Load following and island mode capabilities

Waste heat used for domestic hot water

Carbon footprint reduced by 30.4% or 14,000 tons per year*

*EPA non-baselode emissions data (eGRID 2016)



Gaylord Rockies Resort & Convention Center, host to a 4.0 MW Unison Energy CHP system that provides 94% of the building's electrical needs.

electric load is over 29 MM kWh (from Xcel Energy), with a peak demand of 5.3 MW.

Unison Energy worked with Ryman and Marriott to install a more resilient energy solution: a combined heat and power (CHP)-based microgrid. Unison designed, built, and continues to own and operate the microgrid, which provides the facility with 85% of its power needs. The system captures waste heat to provide hot water that offsets 94% of the site's natural gas usage.

In addition to an on-site power solution, the hotel asked Unison Energy to include a backup boiler as part of the Energy Services Agreement. This boiler produces half of the laundry's annual steam demand and provides hot water when Gaylord has to test or perform maintenance on its existing boiler, thereby adding additional redundancy.

Most importantly, the microgrid will offer Gaylord Rockies staff greater peace of mind, knowing the lights will stay on for hotel guests and convention hosts, even during grid outages.

"Unison Energy has been a reliable and dependable partner. Their team is responsive, proactive, and very professional. When the CHP system has issues they fix them quickly and take ownership of the situation. For Ryman, this has resulted in greater power resilience, bottom-line savings, and environmental sustainability."

— Patrick Chaffin

Chief Operating Officer, Ryman Hospitality Properties

Unison Energy

Who We Are



We own and operate distributed generation systems that operate as microgrids.



We operate systems in CA, MD, NJ, and NY, with additional projects underway.



We finance projects on our balance sheet, with no outside capital required.



We design and implement our systems using internal engineering and project management teams.



We operate our sites using in-house field service technicians, engineers, and a 24/365 staffed monitoring center.